

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	RU 42-5	Wellbore No.	00
Wellbore Legal Name	RU 42-5	Common Wellbore Name	RU 42-5
Project	RU 05-07S-093W	Site	RU 23-5 Pad
Vertical Section Azimuth	115.07 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	9/28/2013	UWI	RU 42-5
Active datum	KB @7,627.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	9/28/2013	Ended	
Tool Name	MWD	Engineer	

2.1.1 Tie On Point

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)
0.0	0.00	0.00	0.00	0.00	0.00

2.1.2 Survey Stations

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
9/28/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/28/2013	NORMAL	92.0	1.76	86.75	91.99	0.08	1.41	1.24	1.91	1.91	0.00	86.75
	NORMAL	178.0	2.55	112.41	177.93	-0.57	4.50	4.32	1.43	0.92	29.84	63.99
	NORMAL	269.0	4.93	115.93	268.73	-3.06	9.89	10.25	2.63	2.62	3.87	7.27
	NORMAL	360.0	7.92	119.18	359.14	-7.82	18.88	20.42	3.31	3.29	3.57	8.55
	NORMAL	452.0	11.35	117.60	449.83	-15.11	32.44	35.79	3.74	3.73	-1.72	354.81
	NORMAL	544.0	14.34	116.81	539.52	-24.45	50.64	56.22	3.26	3.25	-0.86	356.25
	NORMAL	615.0	16.78	114.72	607.92	-32.70	67.79	75.26	3.53	3.44	-2.94	346.05
	NORMAL	707.0	19.45	113.74	695.35	-44.42	93.88	103.86	2.92	2.90	-1.07	353.02
	NORMAL	800.0	21.28	113.12	782.53	-57.28	123.58	136.21	1.98	1.97	-0.67	352.98
	NORMAL	892.0	22.77	111.40	867.82	-70.33	155.51	170.66	1.76	1.62	-1.87	335.79
	NORMAL	984.0	20.65	113.28	953.29	-83.24	186.99	204.65	2.42	-2.30	2.04	162.71
	NORMAL	1,075.0	20.54	113.67	1,038.47	-95.99	216.36	236.65	0.19	-0.12	0.43	128.91
	NORMAL	1,113.0	20.87	116.20	1,074.02	-101.66	228.53	250.08	2.51	0.87	6.66	70.94
9/29/2013	NORMAL	1,269.0	21.73	115.69	1,219.36	-126.45	279.49	306.74	0.56	0.55	-0.33	347.61
	NORMAL	1,364.0	21.39	115.14	1,307.71	-141.43	311.02	341.65	0.42	-0.36	-0.58	210.47
	NORMAL	1,459.0	21.04	116.95	1,396.28	-156.52	341.91	376.02	0.78	-0.37	1.91	118.96
	NORMAL	1,554.0	22.42	117.99	1,484.52	-172.75	373.11	411.16	1.51	1.45	1.09	16.07
	NORMAL	1,649.0	21.66	118.42	1,572.58	-189.60	404.52	446.75	0.82	-0.80	0.45	168.21
	NORMAL	1,744.0	21.73	114.94	1,660.86	-205.36	435.89	481.84	1.36	0.07	-3.66	271.50
	NORMAL	1,840.0	20.89	114.07	1,750.29	-219.83	467.63	516.73	0.93	-0.88	-0.91	200.22

2.1.2 Survey Stations (Continued)

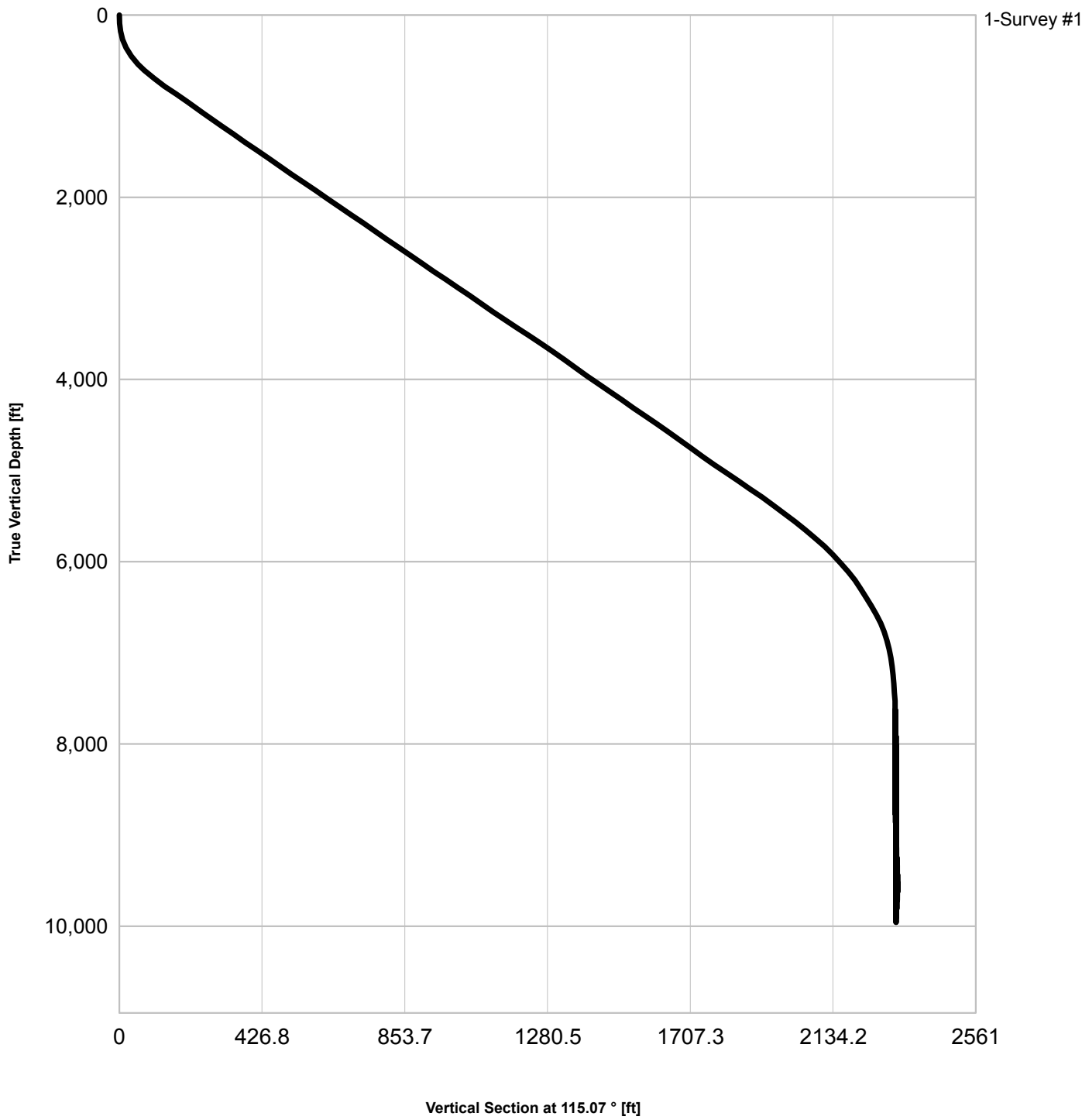
Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
9/29/2013	NORMAL	1,935.0	22.76	113.66	1,838.48	-234.12	499.93	552.04	1.97	1.97	-0.43	355.15
	NORMAL	2,031.0	21.59	112.33	1,927.38	-248.28	533.28	588.24	1.33	-1.22	-1.39	202.61
	NORMAL	2,126.0	20.97	111.63	2,015.90	-261.19	565.25	622.67	0.71	-0.65	-0.74	201.96
	NORMAL	2,221.0	22.04	115.17	2,104.29	-275.03	597.19	657.47	1.77	1.13	3.73	52.15
	NORMAL	2,316.0	22.16	115.21	2,192.31	-290.25	629.53	693.21	0.13	0.13	0.04	7.17
	NORMAL	2,412.0	21.63	115.08	2,281.38	-305.46	661.94	729.01	0.55	-0.55	-0.14	185.17
	NORMAL	2,507.0	20.93	114.55	2,369.91	-319.93	693.23	763.48	0.76	-0.74	-0.56	195.12
9/30/2013	NORMAL	2,602.0	22.17	114.03	2,458.26	-334.28	725.04	798.37	1.32	1.31	-0.55	351.00
	NORMAL	2,698.0	22.03	114.00	2,547.21	-348.98	758.03	834.49	0.15	-0.15	-0.03	184.60
	NORMAL	2,793.0	21.60	114.55	2,635.41	-363.49	790.21	869.78	0.50	-0.45	0.58	154.83
	NORMAL	2,889.0	21.15	113.66	2,724.81	-377.78	822.15	904.77	0.58	-0.47	-0.93	215.37
	NORMAL	2,985.0	21.96	114.91	2,814.09	-392.29	854.29	940.03	0.97	0.84	1.30	30.13
	NORMAL	3,080.0	22.42	114.12	2,902.06	-407.18	886.93	975.91	0.58	0.48	-0.83	326.67
	NORMAL	3,175.0	21.87	114.66	2,990.05	-421.97	919.55	1,011.72	0.62	-0.58	0.57	159.94
	NORMAL	3,270.0	21.67	114.64	3,078.27	-436.66	951.57	1,046.95	0.21	-0.21	-0.02	182.11
	NORMAL	3,366.0	21.44	114.38	3,167.56	-451.29	983.66	1,082.22	0.26	-0.24	-0.27	202.43
	NORMAL	3,461.0	21.07	113.90	3,256.10	-465.38	1,015.09	1,116.65	0.43	-0.39	-0.51	204.96
	NORMAL	3,556.0	22.66	113.53	3,344.26	-479.60	1,047.48	1,152.02	1.68	1.67	-0.39	354.88
	NORMAL	3,649.0	22.99	113.27	3,429.98	-493.93	1,080.59	1,188.08	0.37	0.35	-0.28	342.89
	NORMAL	3,745.0	22.61	113.79	3,518.48	-508.78	1,114.70	1,225.27	0.45	-0.40	0.54	152.30
	NORMAL	3,839.0	22.00	114.12	3,605.44	-523.27	1,147.31	1,260.94	0.66	-0.65	0.35	168.55
	NORMAL	3,934.0	21.38	113.36	3,693.72	-537.40	1,179.44	1,296.04	0.72	-0.65	-0.80	204.02
	NORMAL	4,029.0	21.18	113.96	3,782.24	-551.24	1,211.02	1,330.51	0.31	-0.21	0.63	132.85
	NORMAL	4,121.0	21.01	113.50	3,868.07	-564.56	1,241.34	1,363.61	0.26	-0.18	-0.50	224.03
	NORMAL	4,219.0	20.63	113.52	3,959.68	-578.46	1,273.28	1,398.43	0.39	-0.39	0.02	178.94
	NORMAL	4,314.0	22.08	115.85	4,048.15	-592.92	1,304.69	1,433.02	1.77	1.53	2.45	31.42
	NORMAL	4,409.0	21.74	115.98	4,136.29	-608.42	1,336.58	1,468.46	0.36	-0.36	0.14	171.94
	NORMAL	4,504.0	20.93	116.51	4,224.78	-623.70	1,367.58	1,503.02	0.88	-0.85	0.56	166.86
	NORMAL	4,599.0	21.88	115.60	4,313.23	-638.92	1,398.73	1,537.68	1.06	1.00	-0.96	340.31
	NORMAL	4,695.0	21.96	116.13	4,402.29	-654.56	1,430.97	1,573.51	0.22	0.08	0.55	68.23
	NORMAL	4,790.0	21.47	116.45	4,490.54	-670.12	1,462.49	1,608.66	0.53	-0.52	0.34	166.56
	NORMAL	4,885.0	21.15	116.50	4,579.05	-685.51	1,493.39	1,643.17	0.34	-0.34	0.05	176.77
	NORMAL	4,981.0	20.86	115.16	4,668.67	-700.51	1,524.36	1,677.58	0.58	-0.30	-1.40	238.25
	NORMAL	5,077.0	20.18	115.62	4,758.58	-714.93	1,554.76	1,711.23	0.73	-0.71	0.48	166.88
10/1/2013	NORMAL	5,172.0	20.84	114.42	4,847.56	-729.01	1,584.93	1,744.51	0.82	0.69	-1.26	326.94
	NORMAL	5,268.0	22.02	113.23	4,936.92	-743.16	1,617.01	1,779.57	1.31	1.23	-1.24	339.22
	NORMAL	5,363.0	21.96	113.38	5,025.01	-757.24	1,649.68	1,815.13	0.09	-0.06	0.16	136.96
	NORMAL	5,459.0	21.98	113.86	5,114.04	-771.63	1,682.59	1,851.03	0.19	0.02	0.50	83.87
	NORMAL	5,553.0	21.78	114.23	5,201.27	-785.90	1,714.58	1,886.06	0.26	-0.21	0.39	145.59
	NORMAL	5,649.0	21.37	115.00	5,290.54	-800.60	1,746.67	1,921.36	0.52	-0.43	0.80	145.73
	NORMAL	5,745.0	20.18	113.69	5,380.30	-814.65	1,777.69	1,955.40	1.33	-1.24	-1.36	200.72
	NORMAL	5,841.0	19.86	113.36	5,470.50	-827.77	1,807.82	1,988.26	0.35	-0.33	-0.34	199.29
	NORMAL	5,936.0	19.87	113.15	5,559.84	-840.51	1,837.48	2,020.52	0.08	0.01	-0.22	277.88
	NORMAL	6,031.0	17.96	111.37	5,649.71	-852.20	1,865.97	2,051.28	2.10	-2.01	-1.87	195.97
	NORMAL	6,127.0	17.87	109.54	5,741.06	-862.52	1,893.63	2,080.71	0.59	-0.09	-1.91	260.05
	NORMAL	6,222.0	16.40	112.17	5,831.84	-872.45	1,919.79	2,108.61	1.75	-1.55	2.77	153.46
	NORMAL	6,318.0	14.47	110.75	5,924.37	-881.82	1,943.56	2,134.11	2.05	-2.01	-1.48	190.40
	NORMAL	6,414.0	13.96	114.08	6,017.44	-890.79	1,965.35	2,157.65	1.00	-0.53	3.47	123.56
	NORMAL	6,510.0	13.26	113.45	6,110.74	-899.90	1,986.02	2,180.23	0.75	-0.73	-0.66	191.65
10/2/2013	NORMAL	6,605.0	10.76	110.11	6,203.65	-907.28	2,004.35	2,199.96	2.73	-2.63	-3.52	193.91
	NORMAL	6,701.0	10.04	111.75	6,298.08	-913.47	2,020.54	2,217.24	0.81	-0.75	1.71	158.45
	NORMAL	6,796.0	9.55	114.92	6,391.69	-919.86	2,035.37	2,233.39	0.77	-0.52	3.34	133.81
	NORMAL	6,891.0	9.25	115.53	6,485.42	-926.47	2,049.41	2,248.91	0.33	-0.32	0.64	161.93
	NORMAL	6,987.0	8.20	108.47	6,580.31	-931.96	2,062.87	2,263.42	1.56	-1.09	-7.35	222.11
	NORMAL	7,083.0	7.79	107.60	6,675.37	-936.10	2,075.56	2,276.67	0.45	-0.43	-0.91	196.01
	NORMAL	7,177.0	5.54	104.89	6,768.73	-939.19	2,086.02	2,287.46	2.42	-2.39	-2.88	186.61

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
10/2/2013	NORMAL	7,273.0	4.08	105.64	6,864.39	-941.30	2,093.79	2,295.39	1.52	-1.52	0.78	177.91
	NORMAL	7,368.0	3.89	110.51	6,959.16	-943.34	2,100.06	2,301.94	0.41	-0.20	5.13	121.72
	NORMAL	7,463.0	2.57	105.54	7,054.01	-945.04	2,105.13	2,307.25	1.42	-1.39	-5.23	189.50
	NORMAL	7,559.0	2.30	105.12	7,149.92	-946.12	2,109.07	2,311.27	0.28	-0.28	-0.44	183.57
	NORMAL	7,654.0	1.23	111.48	7,244.88	-946.99	2,111.86	2,314.16	1.14	-1.13	6.69	172.79
10/3/2013	NORMAL	7,749.0	1.05	120.27	7,339.86	-947.80	2,113.56	2,316.05	0.26	-0.19	9.25	140.16
10/4/2013	NORMAL	7,844.0	1.08	125.05	7,434.84	-948.76	2,115.04	2,317.80	0.10	0.03	5.03	73.74
	NORMAL	7,939.0	1.31	147.26	7,529.82	-950.18	2,116.36	2,319.60	0.54	0.24	23.38	74.98
	NORMAL	8,035.0	0.35	131.43	7,625.81	-951.30	2,117.17	2,320.81	1.02	-1.00	-16.49	185.60
	NORMAL	8,130.0	0.34	101.61	7,720.81	-951.55	2,117.67	2,321.36	0.19	-0.01	-31.39	251.97
	NORMAL	8,322.0	0.35	146.33	7,912.81	-952.15	2,118.55	2,322.42	0.14	0.01	23.29	110.34
	NORMAL	8,417.0	0.52	154.12	8,007.81	-952.78	2,118.90	2,323.00	0.19	0.18	8.20	23.10
	NORMAL	8,512.0	0.56	279.51	8,102.80	-953.09	2,118.63	2,322.89	1.01	0.04	131.99	151.60
10/5/2013	NORMAL	8,607.0	0.31	347.70	8,197.80	-952.77	2,118.12	2,322.28	0.56	-0.26	71.78	147.10
	NORMAL	8,703.0	0.31	241.12	8,293.80	-952.64	2,117.83	2,321.97	0.52	0.00	-111.02	216.71
	NORMAL	8,797.0	0.69	236.65	8,387.80	-953.07	2,117.14	2,321.53	0.41	0.40	-4.76	351.90
10/6/2013	NORMAL	8,893.0	0.53	246.40	8,483.79	-953.57	2,116.25	2,320.93	0.20	-0.17	10.16	151.84
	NORMAL	8,987.0	0.76	241.35	8,577.79	-954.04	2,115.30	2,320.27	0.25	0.24	-5.37	343.58
	NORMAL	9,082.0	0.26	165.27	8,672.78	-954.55	2,114.81	2,320.04	0.78	-0.53	-80.08	199.89
	NORMAL	9,177.0	0.50	137.85	8,767.78	-955.07	2,115.14	2,320.56	0.31	0.25	-28.86	308.60
	NORMAL	9,272.0	0.62	143.65	8,862.78	-955.79	2,115.72	2,321.39	0.14	0.13	6.11	28.20
	NORMAL	9,367.0	0.88	145.23	8,957.77	-956.80	2,116.44	2,322.47	0.27	0.27	1.66	5.34
	NORMAL	9,462.0	0.93	168.06	9,052.76	-958.15	2,117.02	2,323.57	0.38	0.05	24.03	93.62
	NORMAL	9,558.0	0.88	168.88	9,148.75	-959.64	2,117.32	2,324.47	0.05	-0.05	0.85	165.89
	NORMAL	9,652.0	0.73	144.77	9,242.74	-960.84	2,117.81	2,325.42	0.39	-0.16	-25.65	234.38
	NORMAL	9,746.0	0.76	151.45	9,336.73	-961.87	2,118.45	2,326.44	0.10	0.03	7.11	74.30
	NORMAL	9,842.0	1.17	177.83	9,432.72	-963.41	2,118.79	2,327.40	0.62	0.43	27.48	61.00
	NORMAL	9,936.0	1.78	194.37	9,526.69	-965.79	2,118.46	2,328.11	0.78	0.65	17.60	43.37
	NORMAL	10,032.0	2.46	216.78	9,622.62	-968.88	2,116.86	2,327.97	1.10	0.71	23.34	62.20
	NORMAL	10,126.0	3.25	225.21	9,716.50	-972.37	2,113.76	2,326.65	0.95	0.84	8.97	32.24
	NORMAL	10,222.0	3.31	222.49	9,812.35	-976.33	2,109.96	2,324.88	0.17	0.06	-2.83	289.72
	NORMAL	10,310.0	3.25	219.33	9,900.20	-980.14	2,106.66	2,323.50	0.22	-0.07	-3.59	250.07
	NORMAL	10,367.0	3.25	219.33	9,957.11	-982.64	2,104.61	2,322.71	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

